

DISSONANCE IN RELATION TO DISCREPANT
INFORMATION AND ANXIETY

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INFORMATION AND ANXIETY

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TABLE OF CONTENTS

	Page
LIST OF TABLES	iv
Chapter	
I. INTRODUCTION	1
Background Theory	
Related Studies	
Statement of Problem	
Hypotheses	
II. METHODOLOGY AND PROCEDURE.	20
Subjects	
Instruments	
Procedure	
III. RESULTS.	26
IV. DISCUSSION	31
V. SUMMARY AND CONCLUSIONS.	40
APPENDIX 1	43
APPENDIX 2	44
BIBLIOGRAPHY	52

LIST OF TABLES

Table	Page
I. Average Opinion Change in Conditions of High and Low Prestige and Favorable and Unfavorable Introductions.	27
II. Analysis of Variance of Difference Scores.	28
III. Mean Anxiety Scores in Relation to Opinion Change	29
IV. Opinion Change in Relation to Initial Opinion. . .	31

CHAPTER I

INTRODUCTION

Theory Background

Many different kinds of behavior are encompassed within the framework of dissonance theory, so many in fact that the theory has been labeled as being ubiquitous by some critics. While most of the research related to the theory deals with human behavior, a number of experiments utilizing animals have also been conducted.

Any attempt to summarize the theory in a few sentences must, of necessity, omit many details which spell out the complex relationships which are specified by the theory in its entirety. The "basic" hypothesis of dissonance theory, however, is that the occurrence of dissonance results from a discrepancy between various cognitive "elements" which an individual may possess, or between cognitions and the behavior related to them. Dissonance theory further assumes that the occurrence of dissonance produces psychological discomfort; that attempts will generally be made to avoid situations which would produce dissonance; and that attempts to reduce dissonance will follow its occurrence.

Dissonance theory was originated by Leon Festinger, and his first book on the subject, A Theory of Cognitive Dissonance (11), was published in 1957. While the majority of the theoretical statements set forth in this work have retained their validity, it has been necessary to alter some of the statements as a result of contradictory experimental evidence.

The occurrence of dissonance may be due to a variety of circumstances. Festinger (11, p. 4) makes this statement,

New events may happen or new information may become known to a person, creating at least momentary dissonance with existing knowledge, opinion, or cognition concerning behavior. Since a person does not have complete control over the information that reaches him and over events that can happen in his environment, such dissonance may easily arise,

and,

Even in the absence of new, unforeseen events or information, the existence of dissonance is undoubtedly an everyday condition. Very few things are all black or all white; very few situations are clear-cut enough so that opinions or behaviors are not to some extent a mixture of contradictions.

and finally,

Where an opinion must be formed or a decision taken, some dissonance is almost unavoidably created between the cognition of the action taken and those opinions or knowledges which tend to point to a different action.

Although dissonance may occur as the result of an almost infinite variety of situations, the following classification includes a majority of the sources which

have received experimental attention. These are dissonance resulting from forced compliance, dissonance occurring as a result of voluntary or involuntary exposure to information, and dissonance attendant to making choices and decisions.

According to Festinger (11, p. 18), "The presence of dissonance gives rise to pressure to reduce or eliminate the dissonance. The strength of the pressure to reduce the dissonance is a function of the magnitude of the dissonance."

Dissonance cannot be measured directly, but its occurrence must be inferred from the attempts to reduce it, which can be accomplished by changes in behavior or by changes in cognitive relationships. The observable correlates to these changes may be expressed in the form of opinion changes, efforts to change the opinions of others, the seeking or avoidance of information, attempting to change one's environment, or the avoidance of situations thought to be capable of producing dissonance.

Related Studies

Animal studies bearing on dissonance theory have usually been related to differences in extinction rates following various experimental conditions designed to produce dissonance. The expenditure of effort to obtain reward, delay in receiving reward following the completion

of some task, and partial as opposed to 100 per cent reward have ordinarily been used as conditions to create dissonance. Experiments in which these adverse reward conditions have been utilized, either singly or in combination with each other, have usually resulted in the animals' showing a greater resistance to extinction, in comparison with animals experiencing more favorable reward conditions. This greater resistance to extinction has been attributed to the animals' finding extra attractions in the reward environment to compensate for the additional expenditure of effort, having to wait for reward, or finding no reward at all, on some trials.

Zimmerman (21) conducted an experiment which demonstrated the plausibility of the notion that partially rewarded animals may find extra attractions in the goal box. The white rats which he used in his study continued to respond during non-rewarded test trials even though they had to press a lever, inserted into the door of the start box, to gain access to the whole apparatus.

Festinger (15, Chapter 3; 13) conducted a number of experiments to demonstrate the development of extra attractions as a mode of dissonance reduction. While some of the experiments are equivocal, largely they lend additional support to this segment of the theory. The

paradigm employed in many of these studies consisted of switching goal boxes and alleys in a manner which would relate a greater resistance to extinction to less attractive reward conditions. Bower (14, p. 493) comments that "the most valuable contribution of Lawrence and Festinger has been the generalization that responses trained under relatively poor reinforcement conditions show greater resistance to extinction."

In a study designed to investigate postdecision dissonance Brehm (6) asked his subjects to rate the attractiveness of a variety of objects. Afterwards subjects were allowed to choose one of two objects as a gift. The two objects from which they were permitted to make their selections were chosen by the experimenter after he had examined subject's ratings. In one condition subjects had to choose between two objects rated within one point of each other, on the attractiveness scale, while subjects in the opposing condition had to choose between objects rated, on the average, two and one half points apart on the scale. It was expected that the first condition would create more dissonance since the possibility of a clear-cut choice was more difficult in this condition than in the case where a definite preference for one of the objects had been indicated. Change of attractiveness ratings following the choosing of an object was taken as the

measure of dissonance reduction. As expected, subjects in the first condition tended to rate the chosen object higher and the rejected objects lower on the rating of the objects following the choice. The difference in rating change between the two conditions was statistically significant.

A study of opinion change by Ewing (10) was later interpreted from the standpoint of dissonance theory which offered a very plausible explanation of the behavior which occurred in one part of the study. Subjects were exposed to identical persuasive literature which disagreed with their existing opinions. In one condition the introduction to the literature led the subjects to believe that it would agree with previously expressed opinions regarding Henry Ford as an industrial employer, while in the opposing condition the introduction led to the belief that the literature would disagree. Following exposure to the literature, subjects in the first condition exhibited a greater change in the direction suggested by the literature, to a significantly greater extent than did the subjects in the second condition. Dissonance theory interpretation accounts for this outcome by stating that subjects in the second condition were more successful in setting up psychological defenses to the dissonance producing literature while such defenses were more difficult for subjects in

the first condition, due to the misleading introduction, permitting the literature to exert a greater influence on them.

In another study, similar in some respects to the one just discussed, Allyn and Festinger (2) exposed two groups of high school students to lectures pertaining to teenage driving. The lectures were the same for both groups and were generally adverse to teenage drivers. One group was told the nature of the lecture before they heard it while the students in the other group were given instructions which were intended to draw their attention to the speakers' personality. Since dissonance can be reduced by discrediting the source of information causing it, the experimenters hoped to show that in the above circumstances the subjects who knew in advance the nature of the lecture would tend to utilize this method of dissonance reduction; whereas subjects lacking this information would reduce dissonance by the other means available; the altering of cognitions, or changing of their opinions in the direction advocated by the communication. All subjects were asked to express their opinions on several topics pertaining to teenage driving regulations before hearing the lectures and again after hearing the lectures.

Actually two hypotheses were being tested in this study: 1. that there would be a greater rejection of the communicator by the first group, and, 2. that there

would be a greater change of opinion in the second group. Although both hypotheses were supported to a statistically significant degree, the authors felt that the differences obtained were small.

Another means of reducing dissonance following exposure to discrepant information, that of seeking consonant information, was the subject of an investigation conducted by Adams (1). One hundred mothers, the majority of whom had indicated that they believed a child's behavior was mostly learned, were exposed to taped messages. Subjects in the experimental group heard a message emphasizing the influence of heredity on child behavior. Subjects in the control group heard a message which emphasized the role of environmental factors in influencing child behavior. Afterwards subjects were told that two lectures were to be given several weeks later. Titles for the lectures were chosen which indicated that one would favor the environmental view and the other would favor the hereditary view. Subjects were then asked if they would be interested in attending either of the lectures and if so, which one. The data collected indicated that experimental subjects were more likely than control subjects to want to attend an authoritative talk, agreeing with the opinion which they had expressed prior to hearing the taped messages. The difference between the two groups was significant at the .02 level.

The intensity of dissonance, according to Festinger (11, p. 16) is a function of the importance of dissonant elements. Zimbardo (20) carried out an experiment which lends support to this contention. Involvement is the term used by Zimbardo, and the conditions of high and low involvement were created by telling some of his subjects that opinions which they were asked to give, concerning a juvenile delinquency case history, were of little importance while telling other subjects that their opinions would provide information about their basic social values, personalities, and their outlook on important life problems. The findings of this part of the study indicated that when the subjects were exposed to a situation in which they were confronted with the knowledge that avowed friends held opinions substantially different from their own; those subjects who were more involved in the situation showed a greater disposition toward the reduction of dissonance than did subjects who felt less involved in the situation. For both groups the amount of opinion change following confrontation was used as the measure of dissonance reduction.

To investigate the effects of the expenditure of effort in relation to the reduction of dissonance Cohen (8) conducted an experiment in which some of his subjects were told that communications which they were

given to read would be difficult to understand and that a good bit of effort would be required. The remaining subjects were given the same literature but were told that little effort would be required to comprehend the material. Several weeks earlier subjects had been asked to indicate their opinions with respect to the advisability of foster homes for juvenile delinquents as an effective means of curbing delinquency. The communications argued for the creation of foster homes; therefore, subjects who indicated that they were in agreement were designated as a low dissonance group, whereas subjects who had expressed a contrary opinion were designated the high dissonance group. Following exposure to the literature, subjects were again asked to express their opinions concerning the issue of foster homes; in the high dissonance, high effort group the expectations from dissonance theory were upheld by a significant difference in opinion change. In the low effort condition, however, an interaction was observed where the low dissonance subjects recorded a greater change of opinion.

In an evaluation of dissonance theory and related research, Brehm and Cohen (5) pointed out the need for additional research which would provide clarification of the cognitive processes involved in dissonance reduction. They also expressed the opinion that more information

concerning the relationship of personality variables and dissonance would be useful.

This issue is important over and above the problem of whether or not dissonance theory has anything to say about the study of personality. Here we speak of the use of personality dimensions that have been isolated, conceptualized, and accepted by psychologists as constructs intervening between the arousal and reduction of dissonance. Such specification of personality variables in the dissonance process could help to identify more clearly the conditions that arouse dissonance and the manner in which it may be reduced (5, p. 314).

Brock (7) attempted an investigation designed to provide information relative to cognitive restructuring in dissonance reduction. The methodology employed permitted him to evaluate changes in the organization of the cognitive elements of which his subjects' attitudes were comprised. Utilizing empirical operations for measuring cognitive structure which were designed by Zajonc (19) and Lewin (16, pp. 83-84, 305-338) the role of grouping and bonding were studied. Grouping is the number of categories used to group attitudinal elements, and bonding is the number of relations existing among elements. Subjects were non-Catholic students, and varying conditions of dissonance were induced by having them engage in activities which required them to commit themselves to various pro-Catholic ideas. The results of the study led Brock to conclude that, "when dissonance is aroused by carrying out contrary behavior, reevaluation of cognitions referring to the original beliefs reduces dissonance more

effectively than change in the way those beliefs are cognitively grouped and related."

Suinn (17) attempted to explore the area of anxiety and dissonance. The Value Rating Scale (VRS) and the Attitude Questionnaire (AQ) were used to measure the level of dissonance and the Taylor Manifest Anxiety Scale was used to measure anxiety. A rank difference correlation significant at the .05 level was obtained between the anxiety scale and the Attitude Questionnaire. Although the correlation between anxiety and the Value Rating Scale was in the predicted direction, it was not significant. Suinn felt that the failure to obtain a significant relationship between the Value Rating Scale and anxiety might be due to the fact that this scale and the Attitude Questionnaire measure different types of dissonance, a possibility borne out by the low correlation between the two scales. As an alternative explanation, he points out that the Taylor Scale is related to general anxiety and that there is evidence that other types of anxiety exist. This led him to conclude that different types of anxiety may vary in their relationship to dissonance.

Although Festinger devoted only several pages of his first book to the discussion of the role of personality variables in dissonance theory, he made it clear that he felt this was an area which could be explored experimentally. The major emphasis in his short discussion of

this topic centered around the "tolerance for dissonance", with the implication that some persons may have a greater tolerance for dissonance than others. Going further he says:

If such a person, for whom dissonance is extremely painful, attempts to avoid the occurrence of dissonance, one would expect to observe that he tries to avoid making decisions or even becomes incapable of making decisions. At this extreme, of course, it becomes possibly a pathological affair (11, p. 269).

Festinger recognized and acknowledged the similarity of the concept of tolerance for dissonance and the concept of "intolerance for ambiguity."

Coleman (9, p. 232), discussing various types of stress situations capable of precipitating neurotic reactions, considers one of the key stresses to be "dissonant cognitions in relation to one's self-structure." Continuing he says, "under the sustained threat of dissonant cognitions, the individual lives in perpetual jeopardy, and in his desperate efforts to protect his self-structure and alleviate his anxiety, he may resort to various neurotic defensive maneuvers."

In Bachrach's book (3), Festinger and Bramel consider, among other things, the relationship of dissonance theory to some psychoanalytic concepts. Specifically, their discussion deals with defense mechanisms, especially projection. Bramel (4) found that persons were more likely to project perceived undesirable tendencies onto persons

whom they liked and respected when their own self-esteem was high, whereas subjects with low self-esteem tended to project the experimentally induced undesirable tendencies onto those persons whom they respected less. In this experiment the denial of the existence of homosexual tendencies was made virtually impossible; had this not been true, the outcome quite possibly could have been different. Nevertheless, the results are challenging to some commonly held beliefs regarding projection.

Concerning self-confidence and selective exposure to dissonant information, Festinger felt that individuals generally will avoid exposing themselves to dissonant information; however he referred to Canon's contradictory findings (12, p. 83). Canon's subjects, who ranked high in self-confidence and who felt that the dissonant material contained useful information, showed an inclination to expose themselves to the information. Subjects low in self-confidence who felt that there was little to be gained from the material showed significantly less inclination to expose themselves to material which they felt was discrepant.

Ward and Carlson (18) reported on the relationship between physiological arousal and opinion change. Neuro-psychiatric patients were exposed to authoritative commentaries which were dissonant for some subjects and consonant for others. Subjects were given an opportunity

to re-evaluate previously expressed opinions following exposure to this information during which time their heart rate and psychogalvanic skin responses were monitored. Of the three diagnostic classifications of patients making up the study, one group showed a significant change in heart rate and psychogalvanic resistance during the period of exposure and opinion change. Ward and Carlson state that the results should be considered cautiously, however, since in the other two groups no significant differences in arousal were evident.

Statement of Problem

The present study proposes to investigate three aspects of dissonance theory. First, the avoidance of dissonance which could occur as a result of involuntary exposure to discrepant information will be considered. Writing on this subject Festinger has this to say, "It seems clear that the avoidance and evasion of material which might produce or increase dissonance depends on anticipations (probably un verbalized ones) about the material or on preliminary assessments of the material." (11, p. 158)

Secondly, the study will explore the role of prestige of the source from which the discrepant information emanates. Finally, the relationship between anxiety and dissonance will be considered.

While more is known about the first two topics to be considered, the approach of this study to the investigation of anxiety represents a departure from the approach of other studies in this area. Since the psychological discomfort which accompanies dissonance is regarded by some investigators (18) to be similar to the discomfort which accompanies anxiety, it seems plausible to assume that persons who are accustomed to relatively high levels of anxiety should be less disturbed by the additional discomfort caused by dissonance. Granting that the above assumption is correct, one would expect such subjects to expend less effort to reduce any dissonance which they might experience.

Hypotheses

To investigate the various facets of dissonance theory discussed previously, the following hypotheses are proposed:

1. Subjects exposed to dissonant information preceded by an introductory statement leading them to believe that the information will be consonant will show a significantly greater increase in dissonance and consequent attitude change than will subjects who are exposed to the same information preceded by an introduction leading them to believe that the information will be dissonant.

2. Subjects exposed to dissonant information which they are led to believe emanated from a source high in

prestige will show a significantly greater increase in dissonance and consequent attitude change than will subjects who are exposed to the same information but who are led to believe that the information emanated from a source low in prestige.

3. There will be a significant negative correlation between scores on the anxiety scale and magnitude of dissonance as manifested by attitude change, following exposure to discrepant information.

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CHAPTER II

METHODOLOGY AND PROCEDURE

Subjects

Subjects for the present study were freshman and sophomore psychology students enrolled at the North Texas State University in the Spring of 1967. There were 51 male subjects and 28 female subjects from three classes making up the total group of 79 subjects.

Instruments

A seven point attitude scale was utilized to determine the subjects opinions concerning U. S. participation in the war in Vietnam. Scale items ranged from strongly agree, moderately agree, mildly agree, through mildly disagree, moderately disagree to strongly disagree, with a neutral point midway for subjects who neither agreed nor disagreed.

The IPAT Self Analysis Form was used as the measure of anxiety. The scale was developed by Cattell (1), who made a distinction between anxiety and neuroticism based on a factor analysis of behavior responses. The general factor of anxiety was found to be made up of five factors which were designated (a) self-sentiment development,

(b) ego strength, (c) protension of paranoid trend, (d) guilt proneness, and (e) ergic tension.

Using a sample of 240 normal adults, Cattell found the split-half reliability of the scale to be .84. Using a mixed sample of normals and hospitalized neurotics, he obtained a reliability coefficient of .91. Independent estimates of anxiety made by two psychiatrists for 85 patients resulted in a correlation coefficient of .92 with the scale. A comparison of 59 anxiety hysterics, 154 neurotics and 795 normals produced mean scores for the anxiety scale of 44.75, 38.54, and 26.75 respectively. Differences between the groups were found to be significant beyond the .001 level.

Levitt and Persky (3), working at the Indiana University Medical Center, collected data during a one year period, for use in validation of the IPAT scale. In one study the scale differentiated between subjects in a normal state and others in whom anxiety had been induced hypnotically. In a test-retest study over a three weeks period a reliability coefficient of .94 was reported. The study included 17 females. Cohen (2) states that for a quick measure of anxiety level in literate adolescents and adults for screening purposes the scale has no peer.

Procedure

All of the subjects were given the attitude scale during their regular class periods and were asked to place a check mark beside the statement on the scale which came closest to describing their feelings with respect to U. S. participation in the war in Vietnam. They were told that the information was being gathered as part of a survey to determine the attitude of college students concerning the Vietnam war.

One week later subjects were told that there was a need for additional information concerning the attitude of college students toward the war in Vietnam. They were then asked to complete the IPAT Self Analysis Form. Following the completion of this test, subjects were handed mimeographed copies of two pages of double spaced, typewritten literature totaling about 375 words. While the actual content of the literature given to each of the subjects was identical, four different introductory paragraphs were employed in an attempt to induce varying amounts of dissonance.

In the first condition, designated the Favorable-High Prestige (F-HP) condition the information to which the subjects were exposed was preceded by an introductory paragraph leading them to believe that the information would be favorable to U. S. participation in the

Vietnam war and that the statements emanated from a source high in prestige. In the second condition, designated the Favorable-Low Prestige (F-LP) condition the information given to the subjects was preceded by an introductory paragraph leading them to believe that the information would be favorable to U. S. participation in the war in Vietnam but that the statements emanated from a source low in prestige. In the third condition, designated the Unfavorable-High Prestige condition, (U-HP) the information to which the subjects were exposed was preceded by an introductory paragraph leading them to believe that the information would be unfavorable to U. S. participation in the war and that it emanated from a source high in prestige. In the fourth condition, designated the Unfavorable-Low Prestige (U-LP) condition, the information given to the subjects was preceded by an introductory paragraph leading them to believe that the information would be unfavorable to U. S. participation in the war but that it emanated from a source low in prestige.

Immediately after the subjects had read the literature they were again asked to indicate their opinion with respect to U. S. participation in the war. This was done by using the same seven point scale mentioned previously.

Since the purpose of the study was to determine the effects of various conditions in inducing dissonance, and since the only literature used argued against U. S.

participation in the Vietnam war, an attempt was made to equate the subjects in each of the four conditions, on the basis of the amount of agreement which they expressed on the first measure of their attitudes. This was done by sorting the questionnaires according to scores and then randomly assigning one fourth of the subjects in each attitude classification to each of the four experimental conditions described previously.

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CHAPTER III

RESULTS

The initial administration of the attitude questionnaire resulted in the finding that approximately 80% of the subjects were in agreement with U. S. participation in the war in Vietnam. Thirty-five of the 79 subjects selected for the second phase of the study strongly agreed, 28 moderately agreed, 12 mildly agreed and, 4 mildly disagreed. With the exception of the 4 subjects who mildly disagreed with U. S. participation in the war, the literature to which they were exposed, then, was dissonant.

Two of the hypotheses to be tested in the present study were

1. Subjects exposed to dissonant information preceded by an introductory statement leading them to believe that the information will be consonant will show a significantly greater increase in dissonance and consequent attitude change than will subjects who are exposed to the same information preceded by an introduction leading them to believe that the information will be dissonant.

2. Subjects exposed to dissonant information which they are led to believe emanated from a source high in prestige will show a significantly greater increase in dissonance and consequent attitude change than will

subjects who are exposed to the same information but who are led to believe that the information emanated from a source low in prestige.

The figures in Table I were obtained by taking the difference between the subject's first and second ratings on the attitude scale. The figures shown represent the average change in each of the four conditions.

TABLE I

AVERAGE OPINION CHANGE IN CONDITIONS OF
HIGH AND LOW PRESTIGE AND FAVORABLE
AND UNFAVORABLE INTRODUCTIONS

Condition	High Prestige		Low Prestige	
	Average Change	N	Average Change	N
Favorable Introduction	.143	21	.105	19
Unfavorable Introduction	.315	19	.500	20

As can be seen from the table the greatest change in attitudes occurred in the condition involving an introduction leading the subjects to believe that the information they were about to read was in disagreement with the attitudes which they had concerning U. S. participation in the Vietnam war, and that the statements emanated from

a source low in prestige. While these results will be discussed in greater detail later on, it might be pointed out here that the changes which occurred in the F-HP and U-LP conditions are opposite to what dissonance theory would predict.

An analysis of variance was used to further investigate the influence of the previously discussed conditions. The results of the analysis are presented in Table II. An F value of 3.98 would be required to support the first and second hypotheses at the .05 level of confidence.

TABLE II

ANALYSIS OF VARIANCE OF DIFFERENCE SCORES

Source of Variation	Sum of Squares	df	Mean Square	F
Between Prestige	.117	1	.117	.234
Between Favorable and Unfavorable Introductions	1.589	1	1.589	3.184
Interaction	.223	1	.223	.448
Within Groups	<u>37.471</u>	75	.499	
Total	39.400			

As can be seen in Table II, none of the F values reached the required level of significance. While the effects

between the conditions involving favorable and unfavorable introductions to the literature were the only ones creating any appreciable differences, these differences, as will be explained momentarily, were hardly beyond what might have been expected by chance (.10 level), and as has already been pointed out, they were also in a direction opposite to what dissonance theory would predict.

The third hypothesis of the present study stated that

3. There will be a significant negative correlation between scores on the anxiety scale and magnitude of dissonance as manifested by attitude change, following exposure to discrepant information.

The mean anxiety scores for those subjects who changed their opinions and those who did not are presented in Table III. The scores shown are Sten Scores.

TABLE III

MEAN ANXIETY SCORES IN RELATION TO OPINION CHANGE

	Subjects Changing	Subjects Not Changing
Total Number of Subjects	13	66
Mean Anxiety Score	5.92	4.96

A t test was conducted to determine whether there was any significant difference between the anxiety scores of the subjects who changed their opinions as compared to the anxiety scores of those who did not change their opinions. Since the literature was dissonant to some extent in all four of the previously described conditions, the test was carried out by comparing the anxiety scores of the 13 subjects who changed their opinions with those of the 66 subjects who did not. The difference was significant at less than the .01 level.

Further inspection of the data revealed that, with the exception of one subject, all of those who changed their original opinions had initial attitude scores of two or lower. Scores of these values represented only moderate or mild agreement with U. S. participation in the Vietnam war.

To test the significance of this relationship a chi square analysis was carried out to compare the subjects who changed their opinions with those who did not, on the basis of their initial attitude scores. Using a two by three chi square design related to the initial attitude scores of 1, 2, and 3 for subjects who did and did not change their scores on the second administration of the scale, a chi square value of 8.865 was obtained, which was significant at beyond the .02 level of confidence.

The data used in the computation of chi square are presented in Table IV. The figures shown represent the number of subjects who changed their opinions and the number who did not change their opinions, in relation to their scores on the first attitude scale.

TABLE IV

OPINION CHANGE IN RELATION TO INITIAL OPINION

Initial Attitude Score	Number Changing	Expected Number	Number Not Changing	Expected Number	Total
1	1	(5.60)	34	(29.40)	35
2	7	(4.48)	21	(23.52)	28
3	4	(1.92)	8	(10.08)	12
Total	12		63		75

P = .02 by Chi Square

As stated previously, four of the subjects in the second phase of the study had initial attitude scores which indicated that they mildly disagreed with U. S. participation in the war. These subjects were omitted from the chi square analysis, since for them the literature was not dissonant.

CHAPTER IV

DISCUSSION

This study was conducted for the purpose of investigating the effects of differences of dissonance created by exposing subjects to literature which was discrepant with attitudes which they had previously expressed by responding to statements on a seven point attitude scale. With the exception of four subjects who were mildly opposed to U. S. participation in the war in Vietnam, all of the subjects either strongly, moderately or mildly agreed with U. S. participation in the war. The discrepant literature which the subjects were asked to read was identical, except for four different introductory paragraphs, and argued against U. S. participation in the war. The variations in the introductory statements were employed to create differing amounts of dissonance.

The first of the four different introductory paragraphs was written in a way which was intended to lead the subjects reading it to believe that the literature to follow would agree with their expressed attitude and that it emanated from a source high in prestige. The second introduction led the subjects to believe that the literature would agree with their attitudes but that it came from a source low in

prestige. The third introduction was written with the intention of leading the subjects to think that the literature to follow would disagree with their attitudes and came from a source high in prestige, while the fourth introduction was intended to lead the subjects reading it to believe that the literature would disagree with their opinions and that it came from a source low in prestige.

The study also proposed to investigate the relationship between anxiety and dissonance reduction. In the absence of any theoretical basis upon which a prediction could be made concerning anxiety, it was felt that subjects scoring high in anxiety, because they were somewhat accustomed to the attendant psychological discomfort, would be less disturbed by the discomfort due to dissonance and would therefore be less prone to respond by changing their opinions.

Some dissonance was induced by the discrepant literature which the subjects were asked to read. This is evidenced by the fact that 17% of the 79 subjects did change their opinions after reading the mimeographed messages. An analysis of variance indicated, however that the introductory statements which were employed in an attempt to create differing magnitudes of dissonance were ineffectual.

A t test to compare the differences between the anxiety scores of the subjects who changed their opinions

between the first and second administration of the attitude scale, and those who did not change their opinions showed that there was no significant difference between the scores. Although the difference between the anxiety scores was not significantly large, on the average the scores for those subjects who changed their opinions tended to be higher. This difference may have reached greater proportions had more of the subjects been affected by the discrepant literature.

Further analysis of the data revealed that, with the exception of one subject, all of those who changed their opinions had scores of two or lower on the initial attitude scale, indicating that they only moderately or mildly agreed with U. S. participation in the Vietnam war. A chi square analysis of this relationship indicated that it was significant beyond the .02 level of confidence.

While the variations in the introductions to the discrepant literature were employed in an attempt to create conditions differing in their dissonance producing potential, it should be pointed out that each of the conditions contained an element of dissonance, since the literature given to all of the subjects was identical, and in every case disagreed with the attitudes expressed by the subjects reading it. Theoretically the manner in which the introductory statements were combined should have resulted in a high dissonance

condition (F-HP), a low dissonance condition (U-LP), and two conditions of moderate dissonance (F-LP) and (U-HP). The greatest attitude change would be anticipated in the F-HP combination since here the subjects would experience greater difficulty in disregarding the source of the information and also because the misleading belief that the information was going to agree, would lessen the probability that psychological defenses would be employed to guard against the message. The U-LP condition on the other hand should have resulted in the least change because here the subjects could have easily disregarded the source of the literature and because being forewarned in the introduction that the literature which they were about to read would disagree with their opinions, provided them the opportunity of being critical of the message from the moment they began reading it.

The complete reversal in the findings in this study is not easily explained. While Brehm and Cohen (1, p. 55) discuss the "boomerang effects" which have now been incorporated into dissonance theory, this concept would more adequately apply to the present findings had the changes within the F-HP condition been in a direction opposite to what was expected. Such a change could perhaps have been attributed to the possibility that the strengthening of one's convictions, when confronted with dissonant information,

is an alternative means of reducing dissonance. This however, is not the type of reversal encountered here.

The comments of Weick (3) are probably the most applicable, He states:

Dissonance is not an easy condition to create experimentally. The induction of dissonant cognitions usually involves considerable subterfuge and complexity. Subjects are uncommonly resourceful at warding off discrepancies or minimizing their importance once they are recognized.

It appears highly probable that the subjects involved in the study became aware that an attempt was being made to alter their opinions and that the realization of this tended to minimize the influence of exposure to the literature.

The observation that the greatest attitude change was registered by those subjects who were only moderately or mildly in agreement with U. S. participation in the war, is perhaps the most interesting aspect of the study. This finding tends to be contradictory to the earlier statements of dissonance theory. Festinger (2) stated that

The greater the difference between the opinion of the one voicing disagreement, and hence the greater the number of elements which are dissonant between the cognitive clusters corresponding to the two opinions, the greater will be the magnitude of dissonance.
(2, p. 263)

Cohen's (1) views describing the "boomerang effect", however, represent a modification of Festinger's statement. He says:

. . . whenever a person is exposed to cognitions dissonant with ones already held, and these various cognitions are highly resistant to change, then the

individual may resort to bolstering the cognitions he first held. If the initially held cognition were an attitude, and the dissonant cognitions were a persuasive communication discrepant with his attitude, then his bolstering of the initial attitude would be termed "boomerang" attitude change. (1, p. 56)

It appears that experiments following the design of the present study cannot provide unequivocal answers to whether or not "boomerang" effects are being encountered. If as Cohen states "boomerang" effects tend to occur in relation to attitudes highly resistant to change, it appears that such attitudes would be reflected by extreme scores on the scale attempting to measure them. If this is correct, upon the second administration of an attitude questionnaire, those subjects having strong and resistant attitudes would not be provided a means of expressing "boomerang" changes of opinion because their scores are already at the extreme end of the scale.

It seems possible that the subjects of the present study who agreed strongly with U. S. participation in the Vietnam war did indeed possess attitudes which were highly resistant to change and that had the scale used to measure these attitudes provided them with an opportunity of further increasing the expression of their agreement they might have done so. As stated previously, the present study cannot provide an answer to the question of whether the adherence to their opinions of those subjects who were in strong agreement was due to boomerang effects or whether, because

of their strong opinions the dissonant material was merely less effective. It appears that additional investigation is warranted in this area to further clarify the influence of dissonance in relation to the strength of the opinions held by those persons being confronted with dissonant ideas. It may be possible that cognitions strongly held, with good reason, may simply be less volatile in the face of dissonant bombardment.

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CHAPTER V

SUMMARY AND CONCLUSIONS

To investigate the effects of discrepant information in the creation of dissonance, 79 college students who expressed agreement with U. S. participation in the Vietnam war, were exposed to written communications which argued against U. S. participation in the war. Four different paragraphs were employed to introduce the literature which was otherwise identical in content. The introductions were utilized in an attempt to create different magnitudes of dissonance. To investigate the relationship between anxiety and dissonance the subjects were asked to complete the IPAT Self Analysis Form, as a measurement of anxiety.

Initially the subjects were asked to indicate their attitudes concerning U. S. intervention in the war. This was done by having them check the statement which most nearly reflected their feelings, on a seven point attitude scale. One week later the students were asked to complete the IPAT Self Analysis Form, following this they were handed copies of the literature to read. After they had finished reading the literature they again indicated their opinion on U. S. participation in the war.

Thirteen of the 79 students changed their opinion on the second rating, however no significant differences were

obtained between the four different conditions related to the introductory paragraphs. Contrary to the first and second hypotheses of the present study, and to what dissonance theory would predict, the greatest change of opinion was recorded by those subjects who were given literature with an introductory paragraph leading them to believe that the message originated from a source low in prestige and that it would disagree with the opinions which they had with respect to U. S. participation in the war.

One explanation for this finding is that the messages which the students read were, in general, ineffectual in creating dissonance and the changes of opinion occurring in the previously described condition could have resulted from chance alone. That the subjects perceived the attempt of the experimenter to alter their opinions, thus minimizing the effect of the messages, appears to have been a contributing factor to the ineffectiveness of the literature.

The differences between the anxiety scores of those subjects who did and did not change their opinions were not found to be statistically significant. Although the differences between these scores was not large, on the average, those subjects who changed their opinions tended to have higher scores on the anxiety scale.

One finding of the study was that to a statistically significant degree (.02 level), the subjects who did change their opinions were the ones who had scores of two or lower

on the first rating, indicating that the students who were strongly in agreement with U. S. intervention in the war were least influenced by the messages. While this finding is contrary to earlier dissonance theory statements, it could possibly be due to "boomerang effects", a concept which has now been incorporated into dissonance theory.

While none of the hypotheses of the present study were confirmed, the data collected resulted in two findings which may serve as the basis for additional research. Although the difference between the anxiety scores of the subjects who did and those who did not respond to the dissonant information was small, the difference observed seems to point to the possibility that exposure to dissonant situations may produce a more intense reaction in persons tending to be higher in anxiety. Further investigation to clarify this relationship should prove to be fruitful.

The finding that persons possessing firm attitudes appear to be less affected by exposure to information dissonant with respect to those attitudes, certainly seems to merit additional study. While a "boomerang effect" could account for such a finding, it would not detract from dissonance theory to discover that cognitive clusters firmly supported by reason are less susceptible to alteration than those less firmly held.

APPENDIX I

Name _____

Class _____ Section _____

Please indicate your feelings about U. S. participation in the war in Vietnam by placing a check mark in front of the appropriate statement below:

1. _____ I strongly agree with U.S. participation in the war in Vietnam.
2. _____ I moderately agree with U.S. participation in the war in Vietnam.
3. _____ I mildly agree with U.S. participation in the war in Vietnam.
4. _____ I neither agree nor disagree with U.S. participation in the war in Vietnam.
5. _____ I am mildly opposed to U.S. participation in the war in Vietnam.
6. _____ I am moderately opposed to U.S. participation in the war in Vietnam.
7. _____ I am strongly opposed to U.S. participation in the war in Vietnam.

APPENDIX II

1.

Numerous people have pointed out that United States intervention in the political, economic, and military problems of Southeast Asia may be viewed as imperialistic behavior and that the advancement of democracy is actually being jeopardized by this activity. However, some of the following comments by a highly regarded member of the Congress of The United States hardly justifies this view.

Top government officials, including President Johnson have stated that the U.S. is committed, on her honor, to continue to the bitter end the undeclared war in Southeast Asia - a war that is escalating so fast that it threatens to become a global conflagration. The president has said that all we are trying to do is enforce the Geneva Accords. Since, as Senator Morse has pointed out, neither the U.S. nor South Vietnam has signed the Geneva Accords, this may be open to question.

It is said that the government of South Vietnam asked for our help. It may be asked, however, which government since the South has had so many governments - none of them democratic - it is difficult to determine which one it was that made the request. To some it appears doubtful that the present government of South Vietnam is in favor of continued escalation of the war, since the introduction of more American troops may be feared as an indication

of permanency of occupation.

A noted columnist has made the following comments with respect to our position in Vietnam. "No great Asian power is alligned with us, neither Japan, India, or Pakistan. None of our European allies is contributing anything beyond scattered verbal support. We have no mandate from the United Nations as we had in Korea, none from NATO, none from the nations of this hemisphere . . . the conception of ourselves as the solitary policeman of mankind is a dangerous form of self delusion." In conclusion he says "We are allowing ourselves to be cast in the role of the enemy of the miserable and unhappy masses of the emerging nations." If this is what we have accomplished by our presence in Vietnam, perhaps another solution should be sought.

There are still others, the Senator continues, who feel that the U.S. is fighting an illegal, undeclared war in Vietnam and that our presence there violates our obligations to the United Nations whose charter commits us to refrain "from the threat or use of force" against any state, and forbids interference in the internal affairs of sovereign states. Intervention by the United Nations is seen as a realistic and honorable way out of an otherwise hopeless dilemma in Southeast Asia. In such an effort it is felt that the President would have the support of the American people and that the prestige of the U.S. would be enhanced.

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